

Serial No. 10/694,192
Atty. Doc. No. 2000P20254WOUS

In The Claims:

Please amend the claims as shown. The amendments shown here are changes from the claims as they were amended in the previously unentered amendment submitted on 01/23/2006.

1.-24. (cancelled)

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25. (currently amended) A combustion chamber comprising:

an outer wall structure surrounding an internal area;

a cooling air inlet orifice arranged on the outer wall structure for cooling air near a hot gas outlet orifice, the cooling air inlet orifice opening into a cooling air channel;

a burner projecting into the internal area;

a housing extending from the burner to the hot gas outlet orifice;

a stiffening rib arranged on a surface of the housing and oriented in an axial direction in the direction of hot gas flow, the stiffening rib sized and configured to reduce stress in the housing;

an inner wall offset from the outer wall structure, the inner wall formed by a surface of the housing and cooled by convection by an air stream flowing between the outer wall structure and the inner wall, the air stream being conducted in a closed cooling air channel; and

an outlet opening for the cooling air from the cooling air channel via which the cooling air is conducted to the burner for combustion purposes,

whereby between the cooling air inlet orifice and the outlet opening the majority of the surface of the housing is cooled by convection by the cooling air stream;

an interlocking joint comprising a flange of the housing proximate the hot gas outlet orifice extending into a slot formed in the outer wall structure, the interlocking joint providing positional support for the housing within the outer wall structure while allowing both axial and radial thermal growth there between; and

a suspension device comprising a plurality of fixing elements each urging the housing radially toward the outer wall structure under a spring tension to provide a rest position for the housing within the outer wall structure, each fixing element comprising a bolt passing through a respective conical shaped guide hole comprising a narrowing diameter formed through the outer wall structure effective to create a rubbing by the respective bolt against the respective narrowing during operation of the combustion chamber thereby suppressing unwanted vibration of the housing.

26. (previously presented) The combustion chamber as claimed in claim 25, wherein the housing is made of sheet metal having a wall thickness between 3 mm and 10 mm.

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27. (cancelled)

28. (previously presented) The combustion chamber as claimed in claim 26, wherein the wall structure has at least one cooling air inlet orifice in the area of the hot gas outlet orifice.

29. (previously presented) The combustion chamber as claimed in claim 25, wherein the housing has stiffening ribs on its outer surface.

30. (previously presented) The combustion chamber as claimed in claim 25, wherein in the area of the burner the housing has a device for insertion of the burner.

31 - 32. (cancelled)

33. (currently amended) The combustion chamber as claimed in claim ~~32~~ 25, wherein the fixing elements are spring mounted at the end adjoining the wall structure.

34. (currently amended) The combustion chamber as claimed in claim ~~34~~ 25, wherein the suspension device is designed such that the suspended housing can move both axially and radially with respect to an axis extending in a lengthwise direction of the combustion chamber.

35. (currently amended) The combustion chamber as claimed in claim ~~32~~ 25, wherein ~~the fixing elements comprise bolts, each of the fixing element bolts which~~ have at a first end an essentially hemispherical bolt head that is seated so as to allow tilting in a recess in a bolt holder mounted on the housing end, said recess being essentially hemispherical in cross-sectional view.

36. (currently amended) The combustion chamber as claimed in claim 35, wherein the second end of each bolt is fed through ~~a~~ the respective guide hole in the wall structure and through a compression spring on the outer side of the wall structure, the compression spring being compressed against the outer side of the wall structure by means of a washer held at the second end of the bolt.

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37-40. (cancelled)

41. (previously presented) The combustion chamber as claimed in claim 25, wherein the housing is split in one sectional plane.

42. - 44. (canceled)

45. (currently amended) A combustion chamber comprising:

an outer wall structure surrounding an internal combustion area;

a cooling air inlet orifice arranged adjacent to an interlocking joint on the outer wall structure such that where cooling air enters a cooling air channel, a section of a housing is cooled by impingement cooling and the housing extends from the burner to the hot gas outlet orifice;

a burner projecting into the internal combustion area;

an inner wall offset from the outer wall structure, the inner wall formed by a surface of the housing and cooled by convection by an air stream flowing between the outer wall structure and the inner wall, the air stream being conducted in a closed cooling air channel; and

an outlet opening for the cooling air from the cooling air channel via which the cooling air is conducted to the burner for combustion purposes,

whereby between the cooling air inlet orifice and the outlet opening the majority of the surface of the housing is cooled by convection by the cooling air stream;

the housing supported in a rest position within the outer wall structure by a plurality of fixing elements urging the housing toward the outer wall structure in spring tension and by an interlocking joint comprising a flange of the housing extending into a slot formed in the outer wall structure, the interlocking joint providing positional support for the housing proximate a hot gas outlet orifice while allowing both axial and radial thermal growth there between;

each fixing element comprising a bolt passing through a respective conical shaped guide hole comprising a narrowing diameter formed through the outer wall structure effective to create a rubbing by the respective bolt against the respective narrowing during operation of the combustion chamber thereby suppressing unwanted vibration of the housing.

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46. (currently amended) The combustion chamber as claimed in claim 25, wherein the cooling air ~~inlets are~~ inlet orifice is sized and configured to reduce impingement cooling and enhance convective cooling.

47. (previously presented) The combustion chamber as claimed in claim 46, wherein the axial length of the cooling air inlet orifices is less than 50% of the total axial length of the housing.

48. (previously presented) The combustion chamber as claimed in claim 47, wherein the axial length of the cooling air inlet orifices is less than 20% of the total axial length of the housing.

49. (currently amended) The combustion chamber as claimed in claim 46, wherein two cooling air inlet orifices ~~provides~~ provide the cooling air.

50. (previously presented) The combustion chamber as claimed in claim 48, wherein a single cooling air inlet orifice is located in each portion of the housing split in one sectional plane.

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51. (previously presented) A combustion chamber comprising:

an outer wall structure surrounding an internal area;

a cooling air inlet orifice arranged on the outer wall structure for cooling air near a hot gas outlet orifice, the cooling air inlet orifice opening into a cooling air channel;

a burner projecting into the internal area;

a housing extending from the burner to the hot gas outlet orifice;

a stiffening rib arranged on a surface of the housing and oriented in an axial direction in the direction of hot gas flow, the stiffening rib sized and configured to reduce stress in the housing;

an inner wall offset from the outer wall structure, the inner wall formed by a surface of the housing and cooled by convection by an air stream flowing between the outer wall structure and the inner wall, the air stream being conducted in a closed cooling air channel;

a conical shaped guide hole located in the outer wall structure that damps radial and/or axial movement of the housing by reducing structural rigidity of the housing; and

an outlet opening for the cooling air from the cooling air channel via which the cooling air is conducted to the burner for combustion purposes,

whereby between the cooling air inlet orifice and the outlet opening the majority of the surface of the housing is cooled by convection by the cooling air stream.